AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A method of designing ~~a system including~~ an element, wherein the element connects a plurality of components in a system, the method comprising:

establishing a system design including the plurality of components;

generating a diagram associated with the system design, wherein the diagram includes the element and the plurality of components;

establishing guidelines for designing the element, the guidelines including information reflecting attributes of ~~at least one of~~ the system and the element; and

automatically determining a routing pattern in the system for the element based on the diagram and the guidelines.

2. (Previously presented) The method of claim 1, wherein the element includes one or more connections and determining a routing pattern includes:

determining one or more sets of one or more connections that can be bundled; and

determining a routing pattern for each bundle.

3. (Previously presented) The method of claim 1, further including:

receiving one or more revised guidelines for designing the element; and

determining a revised routing pattern in the system for the element based on the diagram and the revised guidelines.

4. (Previously presented) The method of claim 1, further including:

providing a drawing illustrating the system and the determined routing patterns.

5. (Previously presented) The method of claim 1, wherein establishing guidelines for designing the system includes:

accessing guidelines associated with the system design.

6. (Previously presented) The method of claim 1, wherein establishing guidelines for designing the system includes:

accessing guidelines associated with the plurality of components or the element.

7. (Previously presented) The method of claim 1, further including:

automatically providing information about the system design.

8. (Previously presented) The method of claim 7, wherein automatically providing information includes:

providing at least one of: a three-dimensional drawing of the system; a two-dimensional drawing of the system; a list of components; and a bill of materials associated with at least one of the system, the element, and the components.

9. (Original) The method of claim 1, wherein the element includes a harness.

10. (Currently amended) A computer-readable medium including instructions for performing a method, which when executed by a processor~~, for designing~~ designs a structure for routing a plurality of elements for connecting components, the method comprising the steps of:

establishing a system design including a plurality of components;

generating a diagram associated with the system design, wherein the diagram includes the plurality of elements and the plurality of components;

accessing guidelines for designing the structure, the guidelines including recommendations for routing the elements in the structure; and

automatically determining routing patterns in the structure for the plurality of elements based on the diagram and the guidelines.

11. (Original) The computer-readable medium of claim 10, wherein the step of determining routing patterns includes the steps of:

determining one or more sets of one or more elements that can be bundled; and

determining a routing pattern in the structure for each bundle.

12. (Previously presented) The computer-readable medium of claim 10, further including the steps of:

receiving one or more revised guidelines for designing the structure; and

determining a revised routing pattern in the structure for the plurality of elements based on the diagram and the revised guidelines.

13. (Original) The computer-readable medium of claim 10, further including:

providing a schematic illustrating the structure and the determined routing patterns.

14. (Original) The computer-readable medium of claim 10, wherein the step of accessing guidelines for designing the structure includes the step of:

accessing standards associated with the system design.

15. (Original) The computer-readable medium of claim 10, wherein the step of accessing guidelines for designing the structure includes the step of:

accessing standards associated with the plurality of elements.

16. (Original) The computer-readable medium of claim 10, further including the step of:

automatically providing information about the designed structure.

17. (Previously presented) The computer-readable medium of claim 10, wherein the step of automatically providing information includes the step of:

providing at least one of: a three-dimensional drawing of the structure; a two-dimensional drawing of the structure; a list of elements and components; and a bill of materials.

18. (Original) The computer-readable medium of claim 10, wherein the structure includes a harness and the elements include wires.

19. (Currently amended) A ~~system~~ tool for designing ~~a system including~~ an element, wherein the element connects a plurality of components in a system, the ~~system~~ tool comprising:

a processor; and

a memory, wherein the memory includes

a computer-aided design module ~~for~~ that, when executed by the processor, ~~establishing~~ establishes a system design and ~~generating~~ generates a diagram associated with the system design, wherein the diagram includes the element and the plurality of components;

a design module ~~for~~ that, when executed by the processor, ~~designing~~ designs the element based on one or more guidelines, the guidelines including at least one recommendation for routing the element in the system; and

a routing design module ~~for~~ that, when executed by the processor, automatically ~~determining~~ determines routing patterns in the system for the element based on the diagram and the guidelines.

20. (Currently amended) The ~~system~~ tool of claim 19, wherein the routing design module is software designed to work with the computer-aided design module.

21. (Currently amended) A ~~system~~ tool for designing ~~a system including~~ an element, wherein the element connects a plurality of components in a system, the ~~system~~ tool comprising:

a routing design module configured to perform the following steps:

establishing a system design including the plurality of components;

generating a diagram associated with the system design, wherein the diagram includes the element and the plurality of components;

establishing guidelines for designing the element, the guidelines including at least one recommendation for routing the element in the system; and

automatically determining a routing pattern in the system for the element based on the diagram and the guidelines.

22. (Currently amended) A method of routing an element among a plurality of components in a system, the method comprising:

establishing the plurality of components to be connected;

establishing routing guidelines including at least one recommendation for routing the element in the system; and

automatically determining a routing of the element to connect the plurality of components based on the routing guidelines.

23. (Previously presented) The method of claim 1, wherein establishing guidelines for designing the element includes establishing recommendations for routing the element through the system.

24. (Previously presented) The method of claim 1, wherein establishing guidelines for designing the element includes establishing the guidelines by prompting a user to answer one or more questions.

25. (Currently amended) The ~~system~~ tool of claim 21, wherein establishing guidelines for designing the element includes accessing the guidelines from a centralized location.

26. (Currently amended) The ~~system~~ tool of claim 21, wherein the routing design module is configured to establish guidelines for designing the element that include recommendations for routing the element in the system based on information reflecting attributes of at least one of the system, the element and the components.

27. (Previously presented) A method for designing an element that connects a plurality of components in a system, the method comprising:

establishing a list of components and connections among the components;

generating a diagram of the system based on the list, the diagram including the element and the listed components;

establishing guidelines for designing the element, the guidelines including information reflecting a geometry of the system; and

automatically determining a routing pattern in the system for the element based on the diagram and the guidelines.